

2.0 REGIONAL CONTEXT RISK-BASED END STATE DESCRIPTION

2.1 PHYSICAL AND SURFACE INTERFACE

The FCP site is located in southwestern Ohio in Hamilton and Butler counties. The topography in southwestern Ohio includes gently rolling uplands with steep hillsides along the major streams such as the Great Miami River and Paddys Run. Agricultural fields, with interspersed woodlots and riparian corridors, dominate the tillable areas around the FCP. Development has increased in the area around the FCP in the last decade converting agricultural fields to residential use. Although the trend of increased residential development is expected to continue, the counties of Hamilton and Butler do not anticipate any major changes in the regional topography (See Figure 2.1b).

The land in Hamilton and Butler counties within the region of the FCP site is privately owned for agricultural, residential, and commercial use. According to the Butler and Hamilton Counties projected future land use, the land will remain privately owned for agricultural, residential, and commercial use. The FCP site will remain under federal ownership. The OSDF and buffer zone will remain DOE property in perpetuity to allow DOE to continuously monitor and maintain the facility. In the event that DOE transfers management of the OSDF to another federal government entity, the appropriate restrictions and limitations will be communicated and implemented (e.g., deed restrictions).

2.2 HUMAN AND ECOLOGICAL LAND USE

The FCP site is located near the communities of Shandon (northwest), Ross (northeast), New Baltimore (southeast), Fernald (south), and New Haven (southwest) and lies on the boundary between Hamilton and Butler counties (See Figure 2.2b).

The land cover of Hamilton and Butler Counties is mainly agricultural. Land around the communities of Shandon, Ross, and New Baltimore is residential. There are two areas of commercial/industrial land cover: one southwest of Shandon and one along the upper west boundary of the FCP site. Although the land of the FCP site used to be agricultural, activities conducted to support the production mission have significantly altered the topography; therefore the land cover is barren. The barren land east of the site is a gravel excavation operation.

Based on the 1990 census, the 5-mile radius around the FCP site contains an estimated 22,900 people while the eight-county Cincinnati consolidated metropolitan statistical area has a population of more than 1.7 million and a labor force of more than 920,000. Scattered residences and several villages are located near the FCP property. Residential units are concentrated in Ross to the northeast, in a trailer park to the east, and in New Baltimore to the southeast.

Within 5 miles there are six schools that enroll 3316 students, two day care centers that enroll about 160 children, and residences that house about 8140 children. The Ross Local Schools District is constructing a new secondary school to support the increase in attendance due to recent development in the school district.

The area around the FCP remains predominantly open and agricultural and the site itself was farmed before construction of production facilities in 1951. Residences, many of them farmsteads, are scattered around the area and a dairy farm is located just outside the southeast corner of the FCP boundary. Due to a long history of intensive agriculture, there is very little nearby land where a natural environment remains intact. Miami-Whitewater Forest operated by Hamilton County Park District contains more than 2,000 acres of woodlots and former agricultural areas that have been converted to prairie and wetlands and is located approximately 3 miles West of the FCP.

Commercial activity is generally restricted to the village of Ross, approximately 3 miles to the northeast. Industrial use is concentrated along State Route 128, in a small industrial park south of the FCP property, in the village of Fernald, and along the site's western boundary.

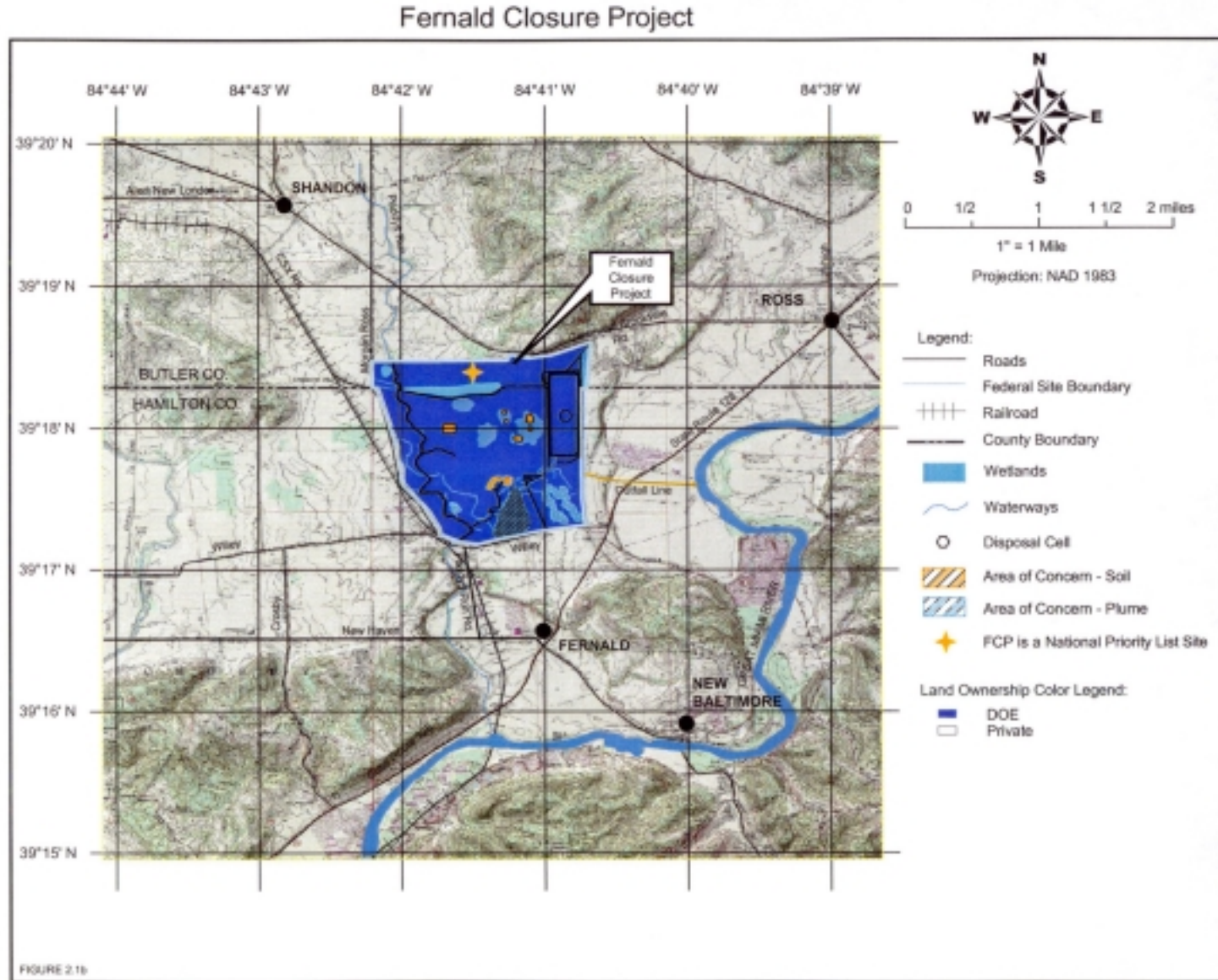


Figure 2.1b. Regional physical and surface interface – RBES.

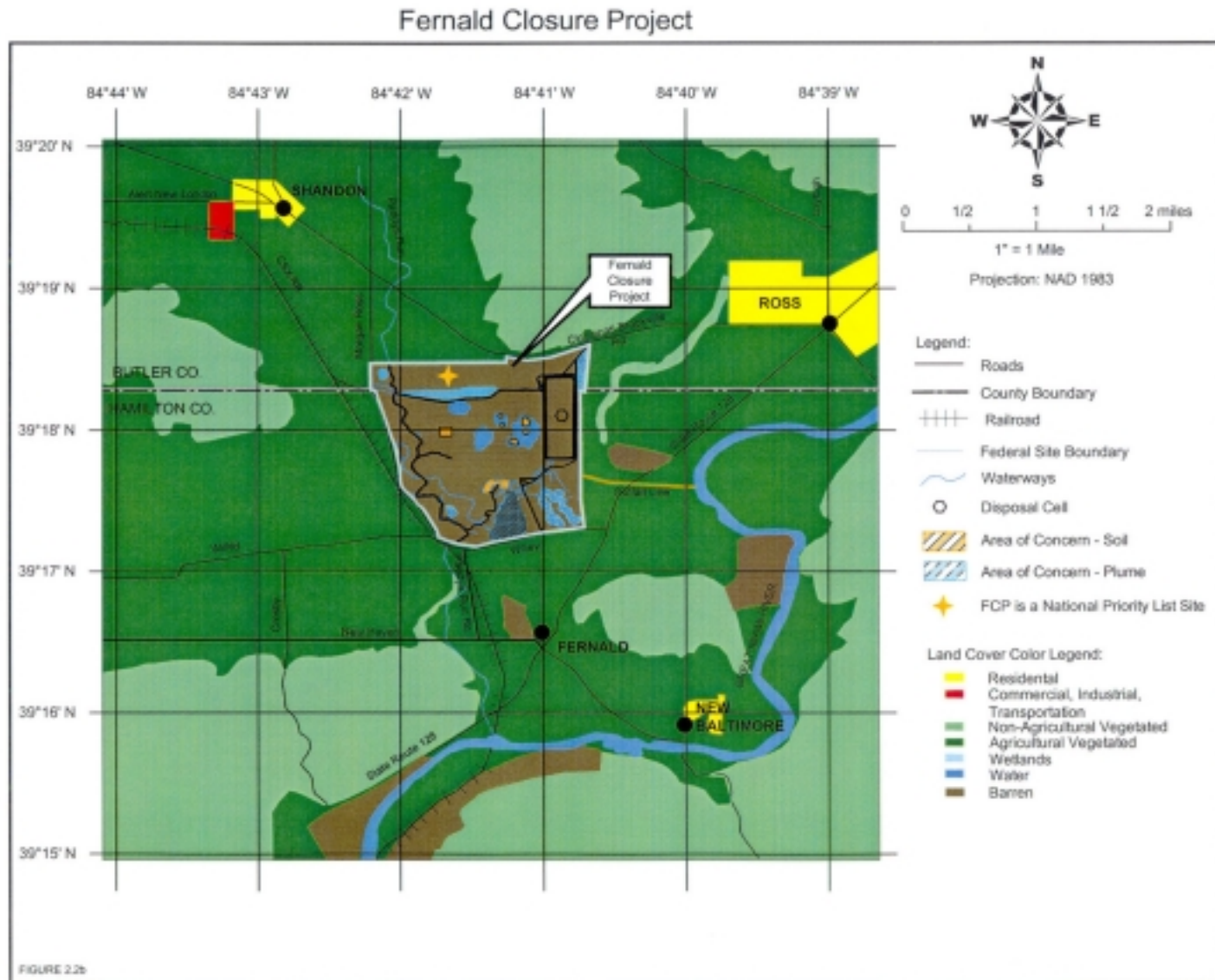


Figure 2.2b. Regional human and ecological land use – RBES.

The Great Miami Aquifer is designated as the sole drinking water source (under Section 1424(e) of the Safe Drinking Water Act) for over 600,000 people in Southwestern Ohio, providing 100 percent and 48 percent of the potable water for Hamilton and Butler counties, respectively. Some residents within a 5-mile radius of Fernald rely on private wells, cisterns or bottled water for potable water. FCP area farms use wells to irrigate their fields and farmers along the Great Miami River irrigate with river water.

The majority of the FCP lies within Hamilton County, Ohio. Hamilton County was consulted during development of the Final Land Use Environmental Assessment (EA) for the FCP (DOE, 1999b). The Hamilton County Planning Commission has a conceptual development plan for the area surrounding the FCP that projects primarily commercial/industrial development immediately adjacent to the western portion of the FCP. The properties immediately to the East and South of the FCP are identified for continued residential and agricultural use. The Northern portion of the FCP lies in Butler County, Ohio and consultation occurred with Butler County Planning Commission. The property immediately adjacent to the Northern boundary of the FCP is primarily residential and agricultural and is expected to remain in those land uses.